

Table S2. Characteristic of studies included for vaccine safety

| First author           | Published time | Study design          | Study location | Study population   | Vaccine type               | No. people vaccinated | No. people with adverse reactions | No. people with severe adverse reactions | No. people with vaccine-related death | risk of bias |
|------------------------|----------------|-----------------------|----------------|--|----------------------------|-----------------------|-----------------------------------|--|---------------------------------------|--------------|
| China CDC              | 2021.5         | cross-sectional       | China          | general population   | Any                        | 265000000             | 31434                             | 5544                                     | ..                                    | moderate     |
| David K. Shay          | 2021.5         | cross-sectional       | USA            | general population   | Ad26.COV2.S                | 7980000               | 13725                             | 343                                      | 88                                    | moderate     |
| Laith J. Abu-Raddad    | 2021.6         | cross-sectional       | Saudi Arabia   | general population   | BNT162b2                   | 130                   | 52                                | ..                                       | ..                                    | moderate     |
|                        |                |                       |                |  | AZD1222                    | 385                   | 255                               | ..                                       | ..                                    |              |
| S Andrzejczak-Grządko  | 2021.7         | cross-sectional       | Poland         | general population   | BNT162b2                   | 196                   | 184                               | ..                                       | ..                                    | moderate     |
|                        |                |                       |                |  | AZD1222                    | 177                   | 175                               | ..                                       | ..                                    |              |
|                        |                |                       |                |  | AZD1222                    | 509                   | 491                               | ..                                       | ..                                    |              |
| Aurelie Baldolli       | 2021.7         | cross-sectional       | France         | general population   | BNT162b2                   | 1987                  | 1136                              | 183                                      | ..                                    | moderate     |
|                        |                |                       |                | patients with a medical history of COVID-19 disease            | BNT162b2                   | 61                    | 45                                | 9  | ..                                    |              |
| Somy Cherian           | 2021.6         | cross-sectional       | India          | patients with rheumatic diseases                               | Any                        | 724                   | 436                               | ..                                       | ..                                    | moderate     |
| Patrice Chevallier     | 2021.6         | cohort study          | France         | allogeneic hematopoietic stem-cells recipients                 | BNT162b2                   | 94                    | 45                                | ..                                       | ..                                    | moderate     |
| Caoilfhionn M Connolly | 2021.3         | cohort study          | USA            | patients with rheumatic diseases                               | Any                        | 325                   | ..                                | 1  | ..                                    | moderate     |
| Victoria Furer         | 2021.6         | cohort study          | Israel         | adult patients with autoimmune inflammatory rheumatic diseases | BNT162b2                   | 670                   | ..                                | 2  | 2                                     | moderate     |
| Julianne Gee           | 2021.2         | cross-sectional       |                |  | Any                        | 13794904              | 6994                              | 753                                      | 113                                   | moderate     |
| Takanao Hashimoto      | 2021.6         | cross-sectional       | Japan          | Health Care Workers  | BNT162b2                   | 181184                | ..                                | 37                                       | ..                                    | moderate     |
| Gang Lv                | 2021.5         | cross-sectional       | USA            | general population   | Any                        | 6688231               | ..                                | 55                                       | 55                                    | moderate     |
|                        |                |                       |                | long-term care facilities                                      | Any                        | 693246                | ..                                | 37                                       | 37                                    |              |
| Pagotto, V.            | 2021.6         | cross-sectional study | Argentina      | healthcare workers   | Sputnik V COVID-19 vaccine | 683                   | 487                               | 12                                       | ..                                    | low          |
| C. Signorelli          | 2021.6         | cross-sectional study | Italy          | general population   | BNT162b2                   | 37900                 | 142                               | ..                                       | ..                                    | moderate     |

|                   |        |                       |                            |  |  |       |     |    |    |          |
|-------------------|--------|-----------------------|----------------------------|--|--|-------|-----|----|----|----------|
| Riad, A.          | 2021.6 | cross-sectional study | Turkey                     | healthcare workers   | CoronaVac  | 780   | 487 | .. | .. | low      |
| Quiroga, B.       | 2021.7 | cross-sectional stud  | Spanish                    | nephrologists  | BNT162b2   | 565   | 422 | .. | .. | low      |
| Vallée, A.        | 2021.7 | cross-sectional study | France                     | healthcare workers   | mRNA-1273  | 42    | 21  | .. | .. | moderate |
| McMurry, R.       | 2021.7 | cohort study          | USA                        |  | AZD1222  | 451   | 274 | .. | .. |          |
|                   |        |                       |                            |  | BNT162b2   | 51795 | ..  | 11 | .. | low      |
|                   |        |                       |                            |  |  | 39058 | ..  | 1  | .. |          |
|                   |        |                       |                            |  | mRNA-1273  | 1273  | ..  | 2  | .. |          |
|                   |        |                       |                            |  |  | 11851 | ..  | 1  | .. |          |
| Wang, J.          | 2021.4 | cohort study          | China                      | patients with non-alcoholic fatty liver disease  | Beijing Institute of Biological Products Co., Ltd. | 381   | 112 | .. | .. | moderate |
| Monin, L.         | 2021.5 | cohort study          | London                     | patients with cancer   | BNT162b2   | 140   | 64  | .. | .. | low      |
|                   |        |                       |                            |  |  | 31    | 9   | .. | .. |          |
| Ram, R.           | 2021.7 | cohort study          | Israeli                    | patients who underwent either allogeneic HCT or CD19-based chimeric antigen receptor T cell (CART) therapy | BNT162b2   | 80    | 11  | .. | .. | moderate |
|                   |        |                       |                            |  |  |       |     |    |    |          |
|                   |        |                       |                            |  |  |       |     |    |    |          |
|                   |        |                       |                            |  |  |       |     |    |    |          |
| Zhang, M. X.      | 2021.5 | Cross-Sectional Study | China                      | healthcare workers   | CoronaVac  | 76    | 18  | .. | .. | moderate |
|                   |        |                       |                            |  |  | 1526  | 238 | 16 | .. |          |
| Rosman, Y.        | 2021.7 | Cross-Sectional Study | USA                        | patients with mast cell disorders  | BNT162b2   | 1397  | 204 | .. | .. | moderate |
|                   |        |                       |                            |  |  | 26    | 2   | .. | .. |          |
| Riad, A.          | 2021.6 | Cross-Sectional Study | Germany and Czech Republic | Healthcare Workers   | AZD1222  | 92    | 87  | .. | .. | moderate |
| Revon-Riviere, G. | 2021.7 | cross-sectional study | La Timone, AP-HM           | adolescents and young adults with cancer   |  | 13    | 8   | .. | .. | low      |
|                   |        |                       |                            |  | BNT162b2   |       |     |    |    |          |
|                   |        |                       |                            |  |  | 11    | 7   | .. | .. |          |
| Peled, Y.         | 2021.5 | cohort study          |                            | heart transplant recipients  | BNT162b2   | 77    | 46  | .. | .. | low      |
|                   |        |                       |                            |  |  | 77    | 40  | .. | .. |          |